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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------|---------------------|------------------|
| 10/045,207 | 10/22/2001 | Phillip Hua-Kuan Wang | 11001-2-US | 2248 |
| 7590 05/26/2004 | | | EXAMINER | |
| Alfred N. Muartori 3724 Cora Drive Winston Salem, NC 27127 | | | HUG, ERIC J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1731 | |

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/045,207

Applicant(s)

WANG, PHILLIP HUA-KUAN

Examiner

Eric Hug

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

The following is in response to the amendment filed on March 24, 2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Green et al (US 6,470,120). Green discloses a method for effecting alignment of an optical fiber and a lens.

Translation alignment of optical fiber 100 and lens 102 is first performed in a device having dual eccentric rotational sleeves. Rotation of the eccentric sleeves induces translational movement of the ends of the devices within a plane (x-y plane) perpendicular to the longitudinal axis. Once the devices are translationally aligned, they are then rotationally aligned with the aid of an optical beam. This shown in Figure 3 and described in column 4, line 55 to column 6, line 2. Rotational alignment is effected in part by rotation of the fiber about the θ_x and θ_y axes. The θ_x

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and θ_y axes intersect at the fiber end and are perpendicular to the longitudinal axis (z , θ_z).

Rotation about the z -axis is the final step in aligning the two devices.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Jadrich (US 5,668,899). Jadrich discloses a device for optically aligning a lens and optical fiber through angular and longitudinal movement. The device has an annular flexure 104 that provides for rotation of the lens about two axes and translation along the optical axis. The inner portion of annular flexure 104 has three degrees of freedom relative to the outer portion of the annular flexure. Referring to Figures 6 and 7, the lens barrel 96 holding lens 98 can be pivoted through angles θ_x and θ_y . As can be seen in Figure 7, the two axes θ_x and θ_y intersect with the optical axis (z -axis) at the end of the optical fiber 108.

Response to Arguments

Applicant's arguments filed March 24, 2004 have been fully considered and are persuasive. The prior art applied previously does not disclose or suggest aligning an optical fiber with an optical device comprising the step of rotating the optical fiber about two axes that intersect at the end of the optical fiber.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Palmer (US 4,302,267) discloses a device for aligning and joining optical fibers through translational movement within in a plane and rotational movement about two perpendicular axes.

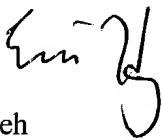
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Dee et al (US 6,690,864) discloses a device for aligning optical devices through three translational axes and one rotational axis.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192. The examiner can normally be reached on Monday through Friday, 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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